

**METHODS FOR IMPLEMENTING VIRTUAL BASES
WITH FIXED OFFSETS IN OBJECT ORIENTED APPLICATIONS**

ABSTRACT OF THE INVENTION

There is provided a method for implementing virtual bases with fixed offsets in a class hierarchy graph corresponding to an object oriented program. The graph has nodes representing object classes and edges representing immediate inheritance therebetween. The method includes the step of determining whether a set N is empty, the set N including all nodes in the graph. A node x is removed from the set N, when the set N is not empty. It is determined whether a set Y is empty, the set Y including nodes that directly and virtually inherit from the node x. A return is made to the step of determining whether the set N is empty, when the set Y is empty. A node y is removed from the set Y, when the set Y is not empty. It is determined whether the node y is duplicated in the graph. A return is made to the step of determining whether the set Y is empty, when the node y is duplicated. An edge e is replaced with an edge e', when the node y is not duplicated. The edge e represents that the node y virtually inherits from the node x. The edge e' represents that the node x has a fixed offset with respect to the node y. A return is made to the

step of determining whether the set N is empty, upon
replacing the edge e .